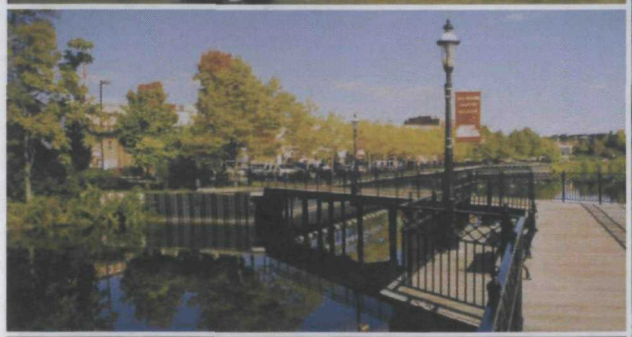
US EPA RECORDS CENTER REGION 5
407110

Settlement Confidential – FOIA Exempt

ARCADIS

Proposed Scope for Focused Cleanup of Plainwell No. 2 Dam Area

April 13, 2009



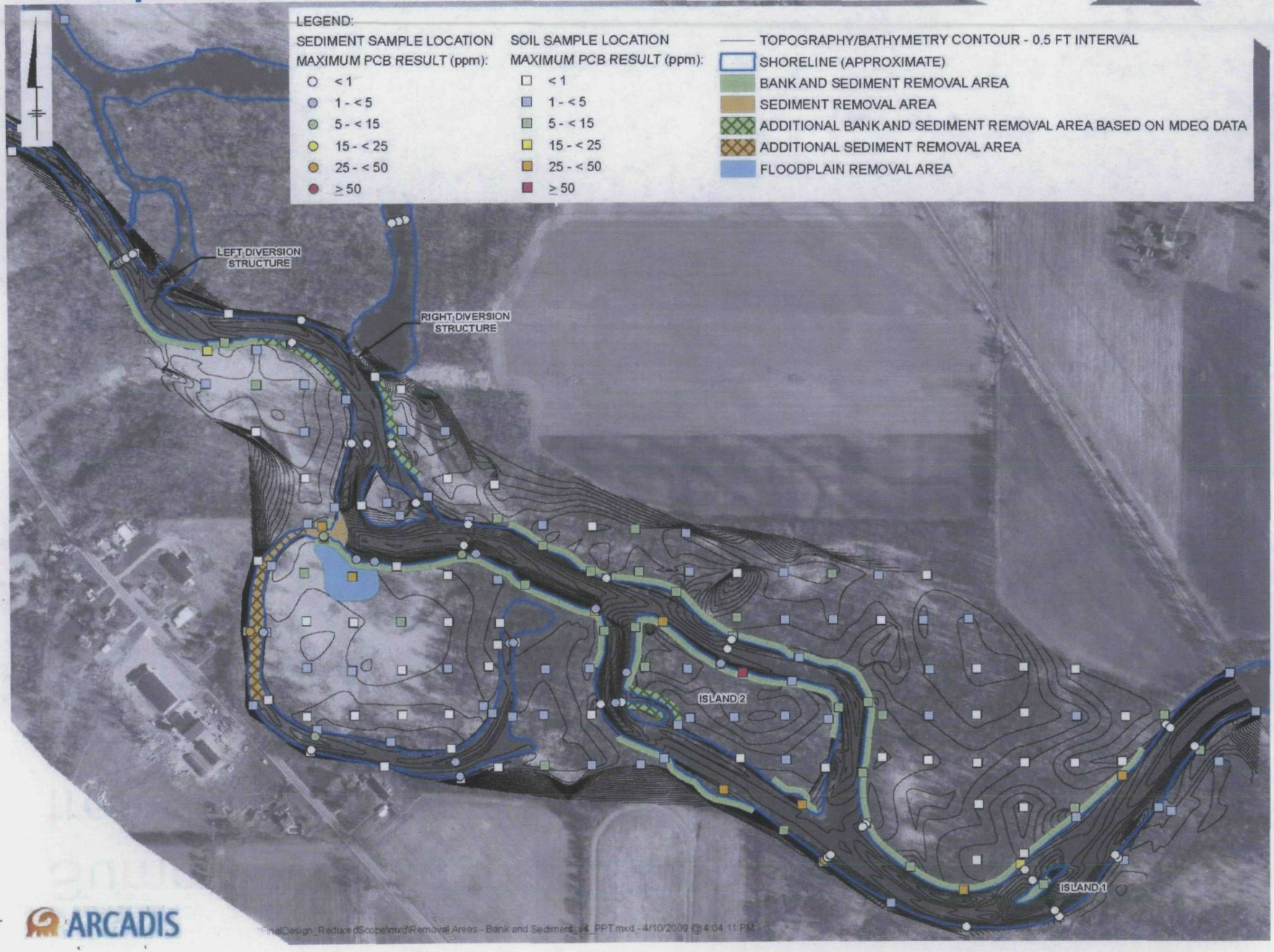
Background

- KRSG, USEPA, MDEQ, and Natural Resource Trustee met 10/07/08 to review KRSG's proposed *Next Steps for Cleanup and Restoration of the Kalamazoo River*
  - Included scope for cleanup of Plainwell No. 2 Dam Area
- *Conceptual Design Report for Bank Removal and Restoration – Plainwell No. 2 Dam Area* (CDR) submitted to USEPA 11/04/08
- A meeting was held 12/04/08 to discuss Agencies' review of the CDR
- Additional data from MDEQ forwarded to KRSG on 12/29/08
- A planned January 2009 meeting to complete scope discussions was canceled by Millennium Holdings, LLC
- ARCADIS reconnoitered Island 2 side channel area in February 2009
- This updated proposed scope for jointly funded cleanup agreement with USEPA was modified in response to Agency comments on the initial proposal, and additional information from MDEQ

Summary of Scope Adjustments from Conceptual Design Report

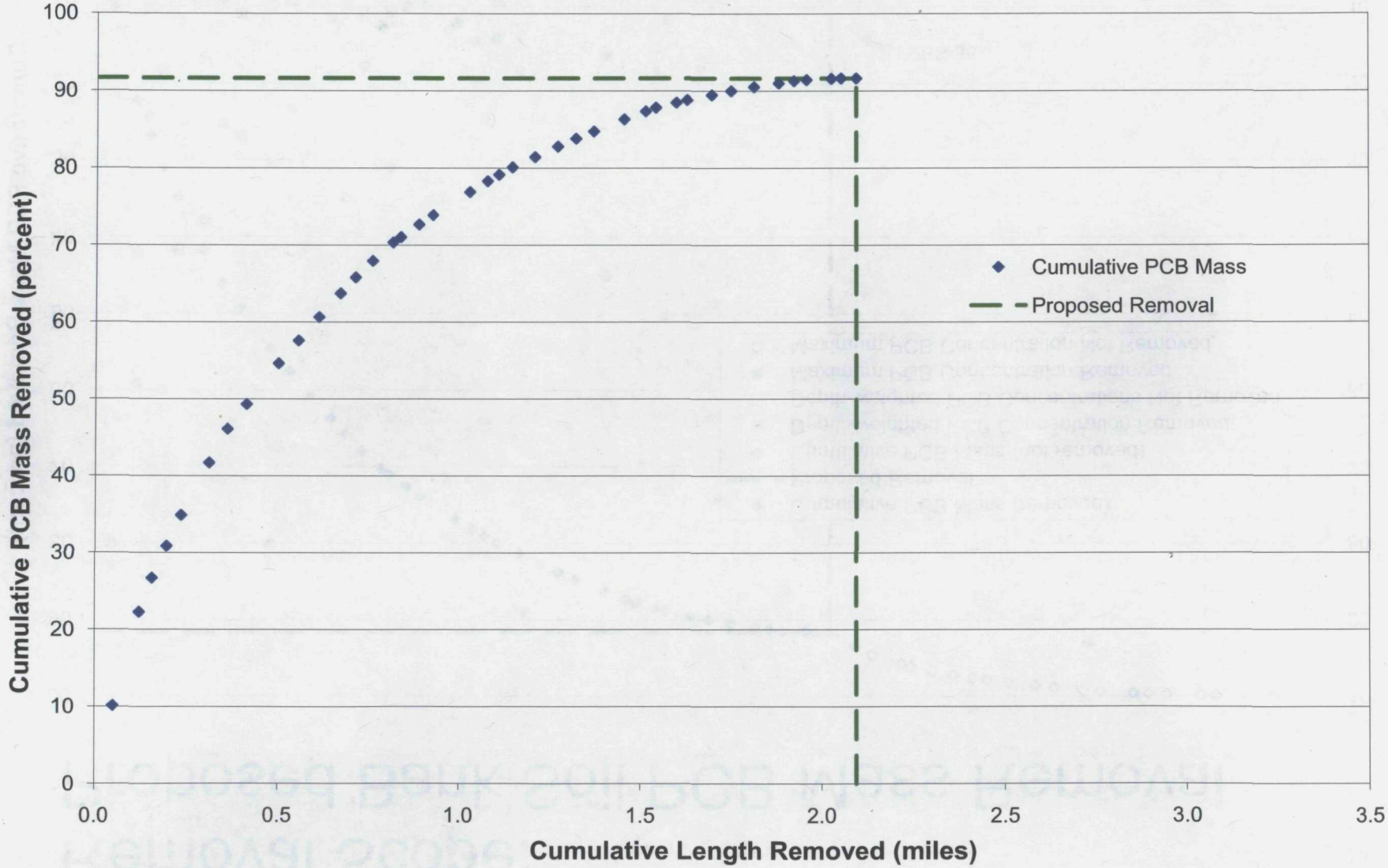
- Information from MDEQ was incorporated to generate updated cumulative mass removal basis for targeting bank segments
  - New bank segments included near the Dam, Island 2 side channel
  - PCB mass removal increased to 92% of available inventory
  - Bank removal increased to 53% of total length
- 0.9-acre floodplain area near mouth of oxbow with 44 (J) mg/kg PCB in the surface soil (0 to 0.5-foot interval) included
- Remaining floodplain and bank soil PCB concentrations average 2.3 mg/kg with a median of 1.3 mg/kg
- 0.9-acre sediment area on west side of oxbow included down to midpoint between sediment samples P2RT7-7 and P2RT8-7
- Removal of toe-of-bank sediments in specific areas
  - To be determined in design based on individual transect information
  - Allowed for using 1.5 ft^2 cross-sectional excavation along length of removed bank

Proposed Removal Areas



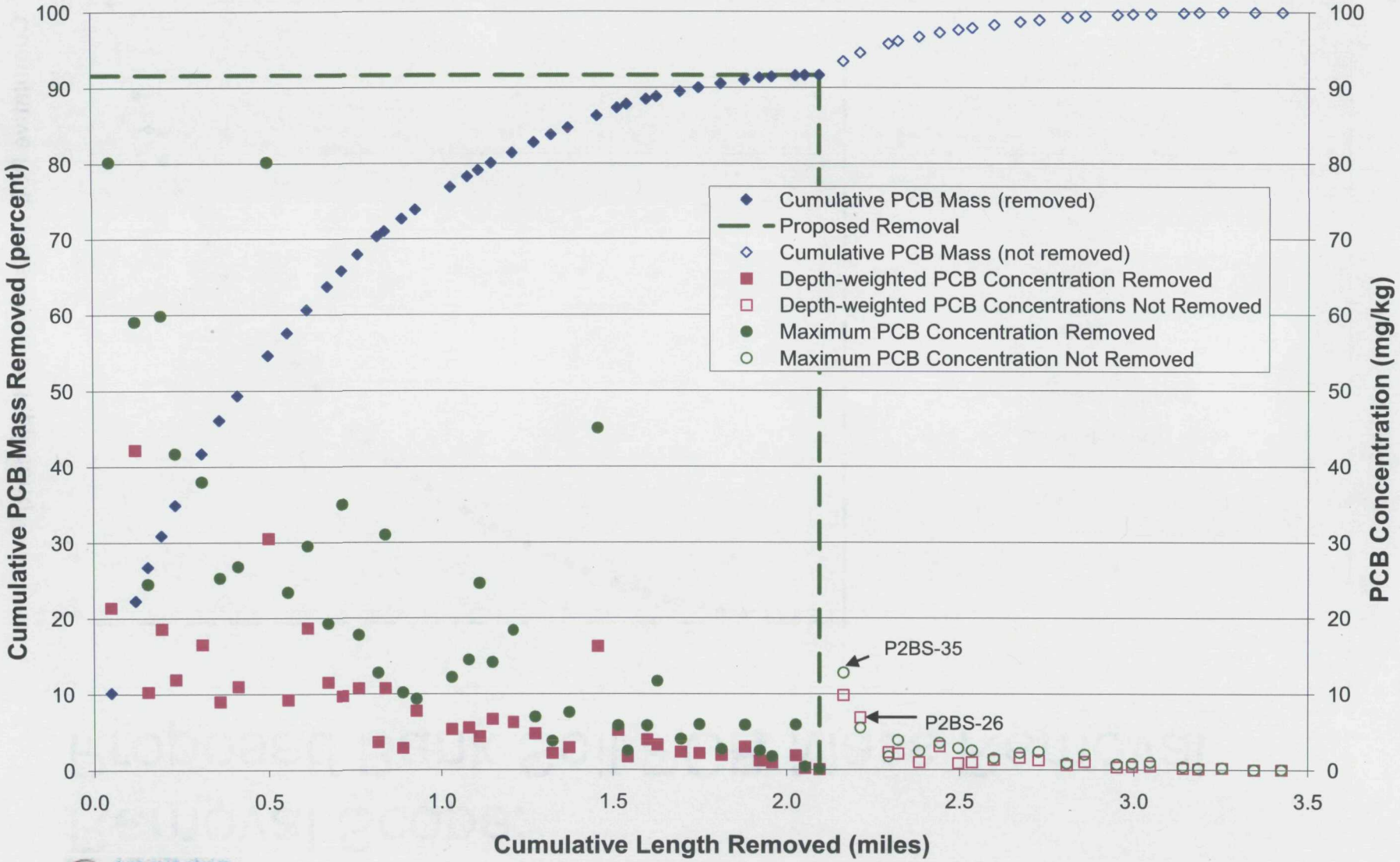
ARCADIS

Removal Scope:
Proposed Bank Soil PCB Mass Removal



ARCADIS

Removal Scope:
Proposed Bank Soil PCB Mass Removal



ARCADIS

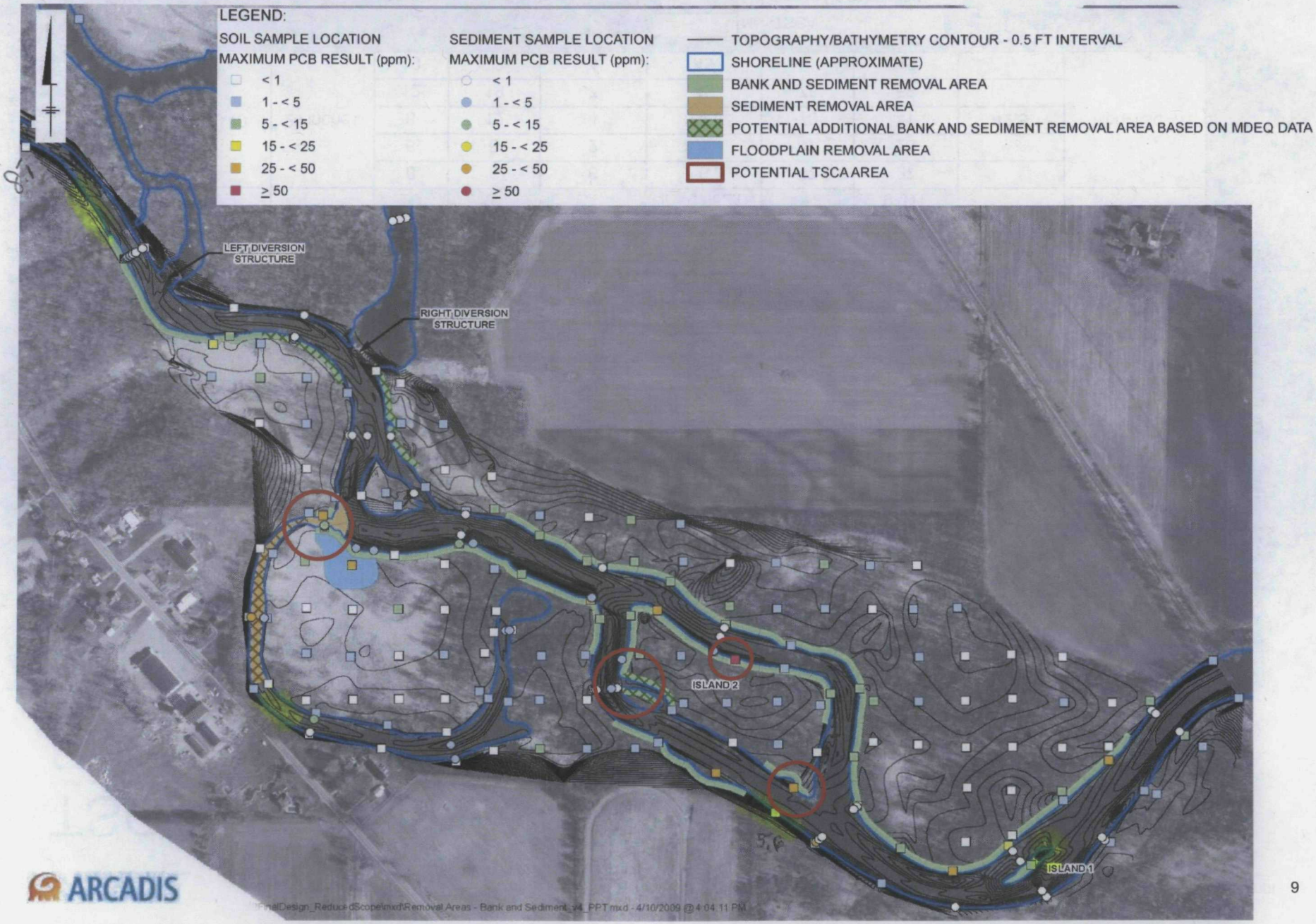
Scope Summary

Parameter	Extent of Removal
Bank Length	2.1 miles
Bank Area	7.1 acres
Bank Soil Volume	11,200 cy
Floodplain Area	0.9 acres
Floodplain Volume	780 cy
Sediment Volume	2,290 cy
TOTAL VOLUME	**14,270 cy**

TSCA Disposal Requirements

- **Application of Fox River Protocol**
  - Depth-weighted average PCB concentration to 30 inches or depth of removal
  - Evaluated on basis of removal segments
  - Combined results from samples collected by ARCADIS and MDEQ when both present in a removal segment
- **No materials require TSCA disposal**
  - Five removal segments contained either sediment or soils with maximum PCB concentration > 50 mg/kg PCB
  - Depth-weighted average PCB concentrations over removal depths in these five removal segments range from 34.6 to 42.5 mg/kg

Removal Segments with Max PCB > 50 mg/kg



ARCADIS

TSCA Disposal Evaluation According to Fox River Protocol

Location	MDEQ Sample ID	Removal Depth	Sample Interval Top (in)	Sample Interval Bottom (in)	Thickness (in)	ARCADIS PCB (mg/kg)	MDEQ PCB (mg/kg)	Average PCB (mg/kg	Depth-Weighted PCB	TSCA Determination
P2FP-053	N/A	12 inches	0	6	6	13 J			36.5	Non-TSCA
			6	12	6	60 J				
			12	24	12	0.92				
P2RT-6-2	N/A	18 inches	0	2	2	43.4			34.6	Non-TSCA
			2	6	4	100				
			6	12	6	22.6				
			12	18	6	0.086				
			18	24	6	0.086				
			24	27	3	0.054				
P2BN-23	PSD-36 and PSD-37	12 inches	0	6	6	0.88	80	41	36.9	Non-TSCA
			6	12	6	0.27	66	33		
			12	14	2	0.27	66	33		
			14	21	7	ND (0.064 U)		0.032		
P2BN-24	PSD-36 and PSD-37	12 inches	0	6	6	1.1	80	41	37.1	Non-TSCA
			6	12	6	0.46 J	66	33		
			12	20	8	0.13		0.13		
			20	24	4	ND (0.082 U)		0.041		
P2BN-26	PSL-40	24 inches	0	6	6	7.6 J	47	27		Non-TSCA
			6	8	2	8.4 J	47	28		
			8	12	4	8.4 J	73	41	42.5	
			12	19	7	45	73	59		
			19	23	4	45		45		

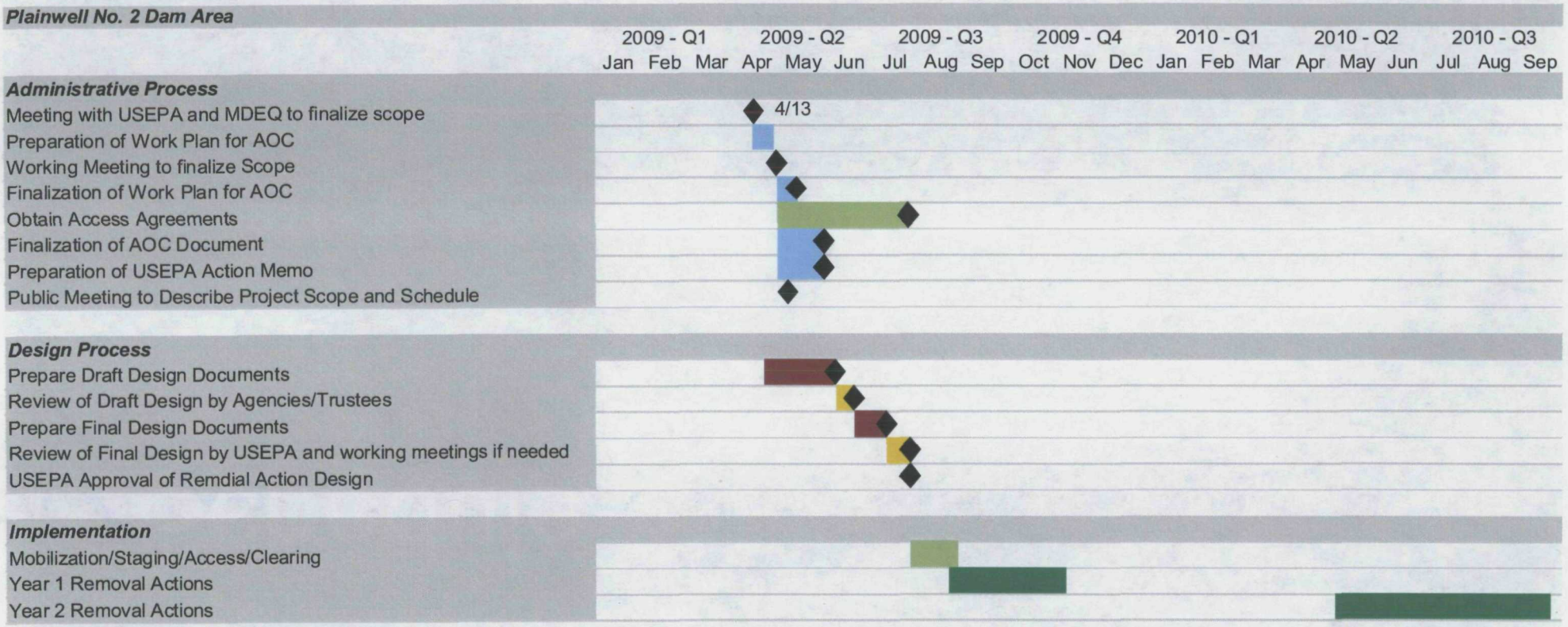
Non-TSCA
Not included in calculation

ARCADIS

Schedule

ARCADIS

Estimated Planning and Removal Action Schedule



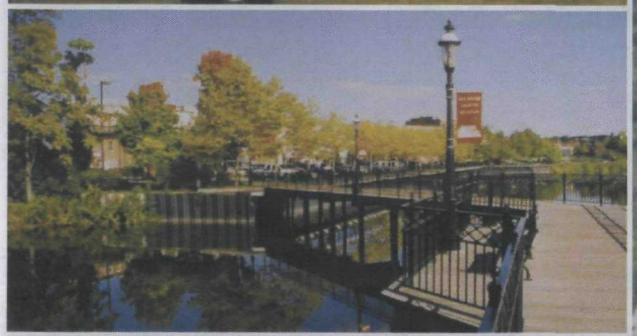
ARCADIS

4-13-09 GP
Conf. Call 0830 ARCADIS MDEQ EPA

ARCADIS

Proposed Scope for Focused Cleanup of Plainwell No. 2 Dam Area

April 13, 2009



Background

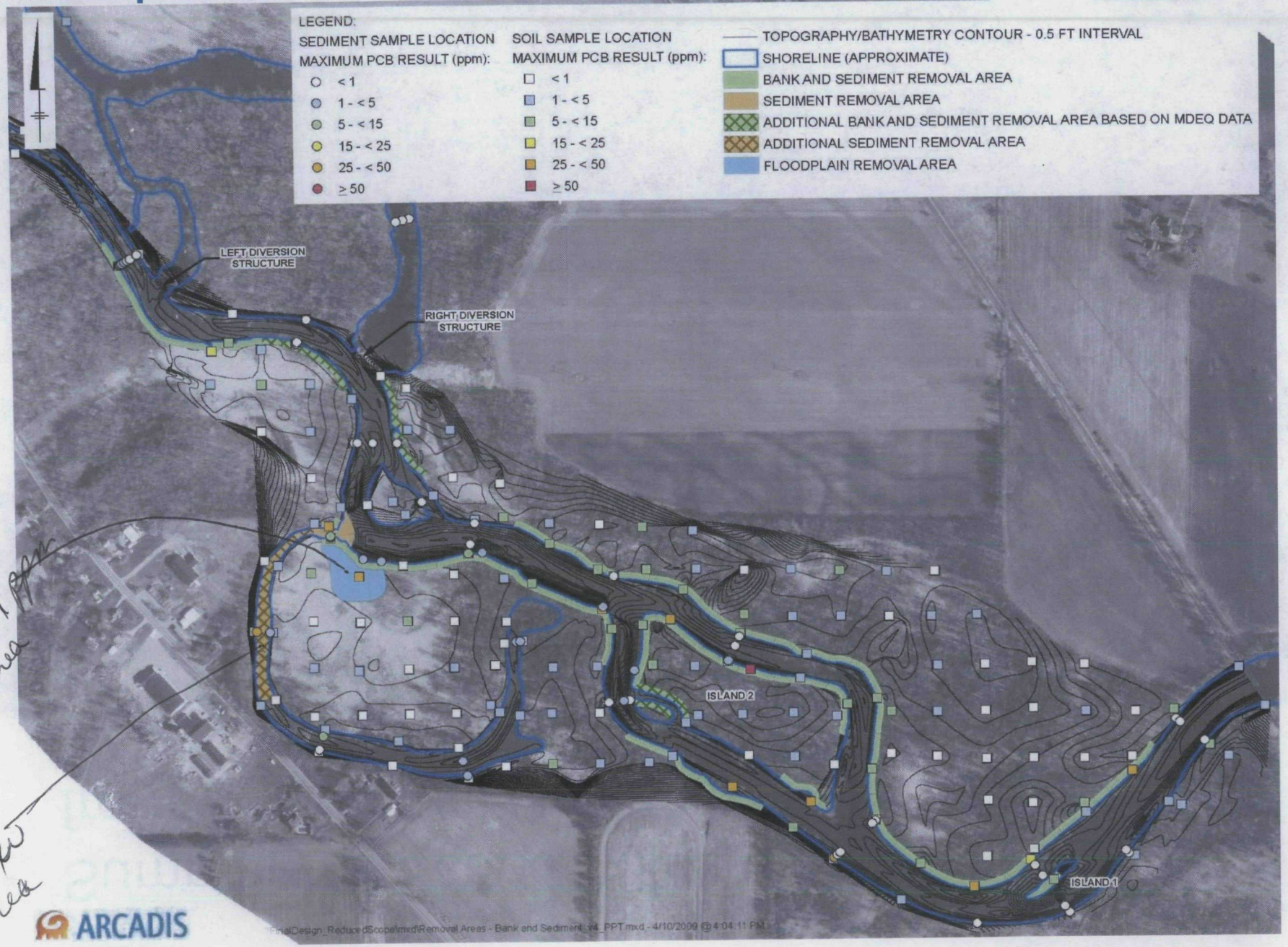
- KRSG, USEPA, MDEQ, and Natural Resource Trustee met 10/07/08 to review KRSG's proposed *Next Steps for Cleanup and Restoration of the Kalamazoo River*
  - Included scope for cleanup of Plainwell No. 2 Dam Area
- *Conceptual Design Report for Bank Removal and Restoration – Plainwell No. 2 Dam Area* (CDR) submitted to USEPA 11/04/08
- A meeting was held 12/04/08 to discuss Agencies' review of the CDR
- Additional data from MDEQ forwarded to KRSG on 12/29/08
- A planned January 2009 meeting to complete scope discussions was canceled by Millennium Holdings, LLC
- ARCADIS reconnoitered Island 2 side channel area in February 2009
- This updated proposed scope for jointly funded cleanup agreement with USEPA was modified in response to Agency comments on the initial proposal, and additional information from MDEQ

Summary of Scope Adjustments from Conceptual Design Report

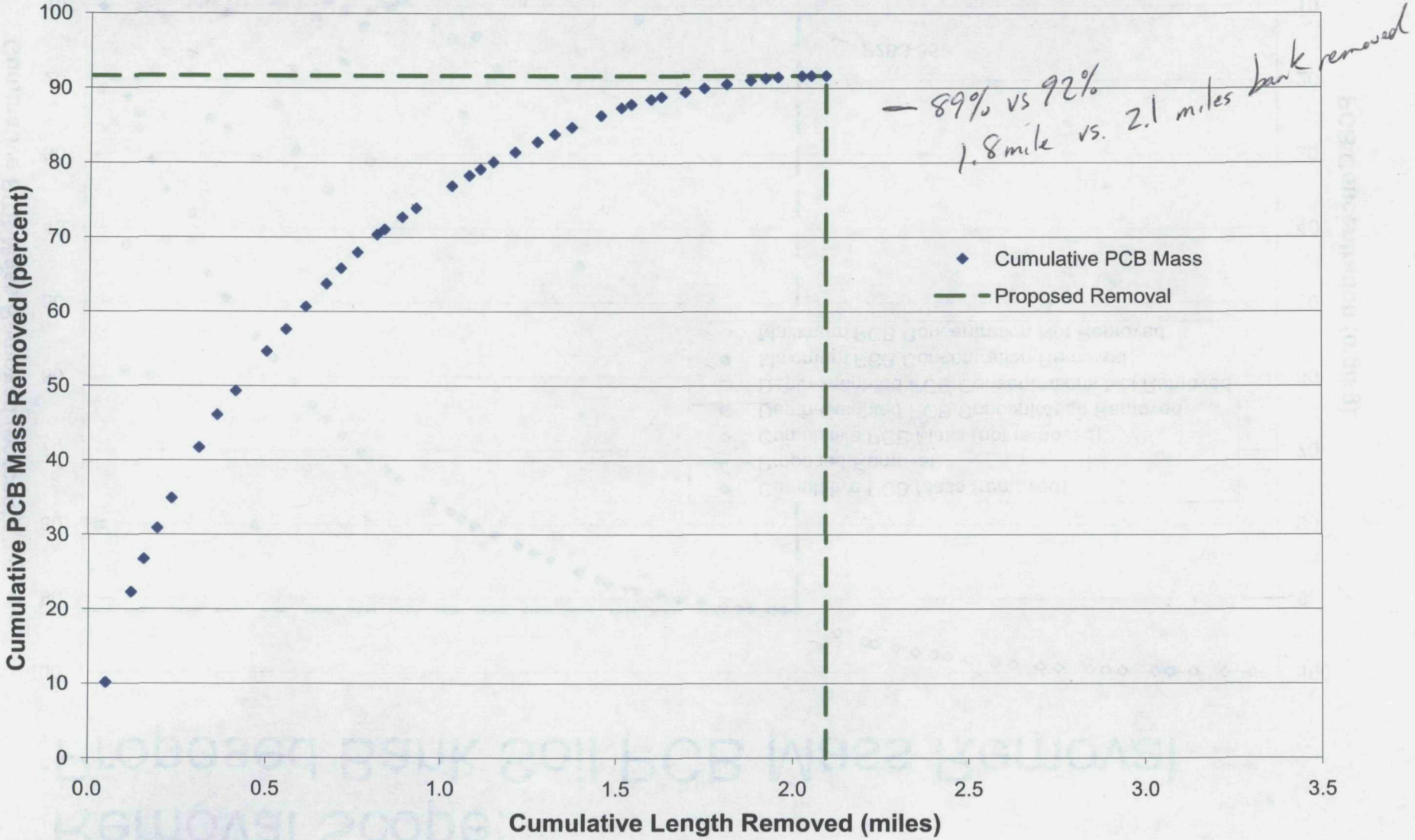
- Information from MDEQ was incorporated to generate updated cumulative mass removal basis for targeting bank segments
  - New bank segments included near the Dam, Island 2 side channel
  - PCB mass removal increased to 92% of available inventory
  - Bank removal increased to 53% of total length

- 0.9-acre floodplain area near mouth of oxbow with 44 (J) mg/kg PCB in the surface soil (0 to 0.5-foot interval) included
- Remaining floodplain and bank soil PCB concentrations average 2.3 mg/kg with a median of 1.3 mg/kg
- 0.9-acre sediment area on west side of oxbow included down to midpoint between sediment samples P2RT7-7 and P2RT8-7
- Removal of toe-of-bank sediments in specific areas
  - To be determined in design based on individual transect information
  - Allowed for using 1.5 ft^2 cross-sectional excavation along length of removed bank

Proposed Removal Areas

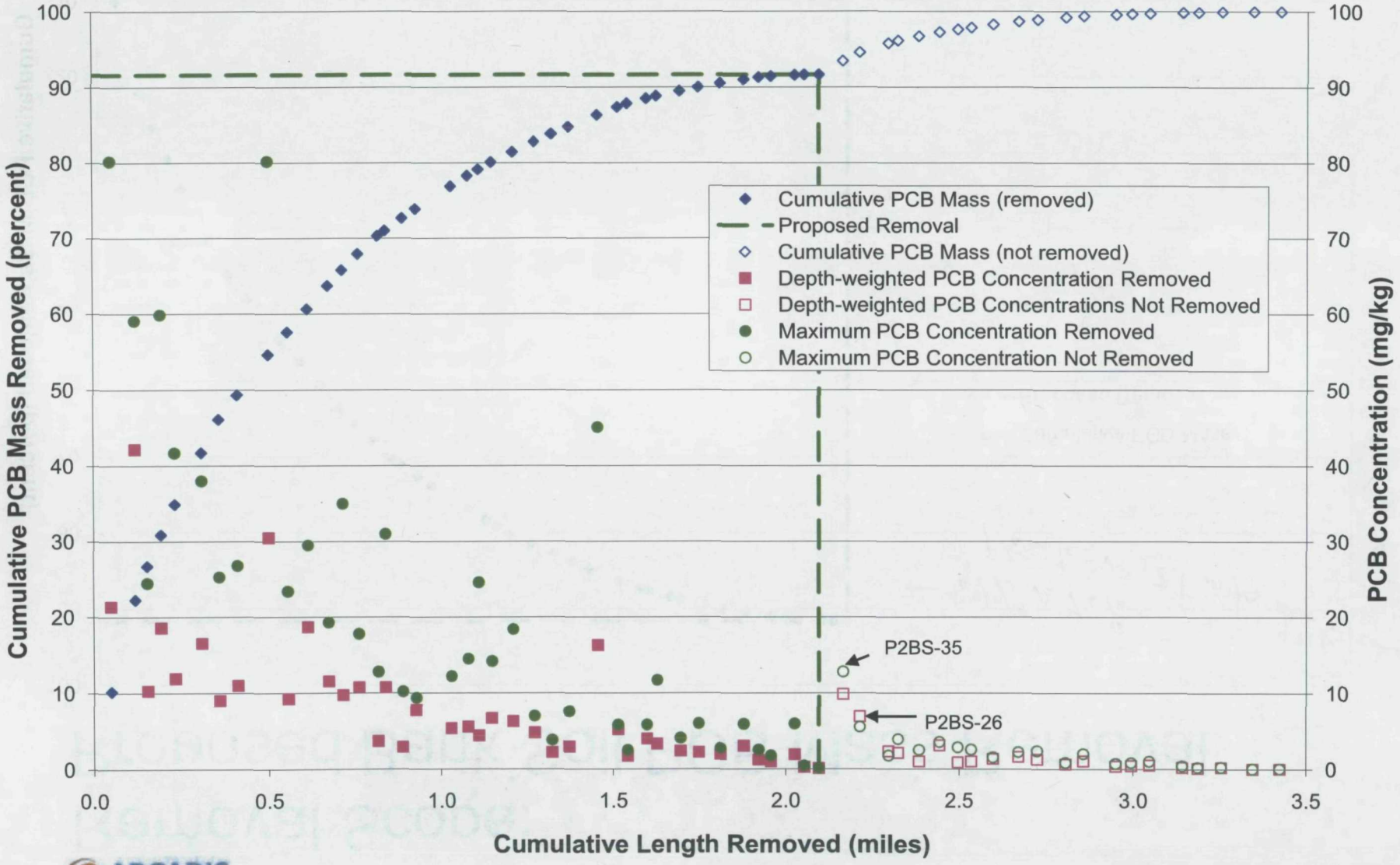


Removal Scope:
Proposed Bank Soil PCB Mass Removal



ARCADIS

Removal Scope:
Proposed Bank Soil PCB Mass Removal



ARCADIS

Scope Summary

push tissue sample in conjunction actuator - sample pre + post removal ~~in~~

Parameter	Extent of Removal
Bank Length	2.1 miles
Bank Area	7.1 acres
Bank Soil Volume	11,200 cy
Floodplain Area	0.9 acres
Floodplain Volume	780 cy
Sediment Volume	2,290 cy
TOTAL VOLUME	**14,270 cy**

TSCA Disposal Requirements

Big Issue for GP.

Fox River 30" protocol was for in-situ sediment removal w/ cutter head dredge vs. bank soil excavation

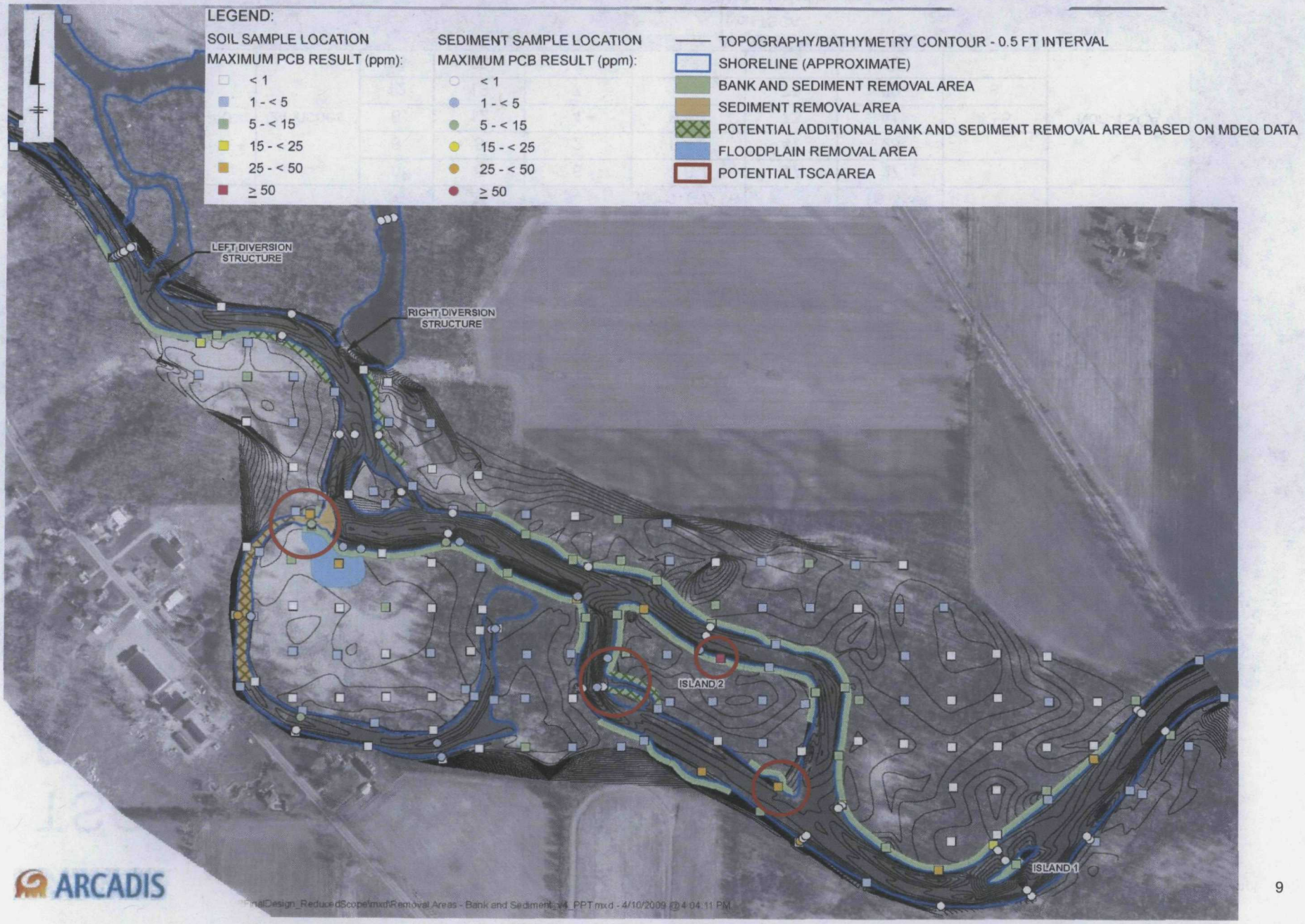
- **Application of Fox River Protocol**
  - Depth-weighted average PCB concentration to 30 inches or depth of removal
  - Evaluated on basis of removal segments
  - Combined results from samples collected by ARCADIS and MDEQ when both present in a removal segment

GP doesn't want to change this afraid of setting precedent w/ 12" lifts on future work

- **No materials require TSCA disposal**
  - Five removal segments contained either sediment or soils with maximum PCB concentration > 50 mg/kg PCB
  - Depth-weighted average PCB concentrations over removal depths in these five removal segments range from 34.6 to 42.5 mg/kg

GP - gather disposal facilities permit and review the designation of PCB waste (i.e. definition).

Removal Segments with Max PCB > 50 mg/kg



ARCADIS

TSCA Disposal Evaluation According to Fox River Protocol

Location	MDEQ Sample ID	Removal Depth	Sample Interval Top (in)	Sample Interval Bottom (in)	Thickness (in)	ARCADIS PCB (mg/kg)	MDEQ PCB (mg/kg)	Average PCB (mg/kg	Depth-Weighted PCB	TSCA Determination
P2FP-053	N/A	12 inches	0	6	6	13 J			36.5	Non-TSCA
			6	12	6	60 J				
			12	24	12	0.92				
P2RT-6-2	N/A	18 inches	0	2	2	43.4			34.6	Non-TSCA
			2	6	4	100				
			6	12	6	22.6				
			12	18	6	0.086				
			18	24	6	0.086				
			24	27	3	0.054				
P2BN-23	PSD-36 and PSD-37	12 inches	0	6	6	0.88	80	41	36.9	Non-TSCA
			6	12	6	0.27	66	33		
			12	14	2	0.27	66	33		
			14	21	7	ND (0.064 U)		0.032		
P2BN-24	PSD-36 and PSD-37	12 inches	0	6	6	1.1	80	41	37.1	Non-TSCA
			6	12	6	0.46 J	66	33		
			12	20	8	0.13		0.13		
			20	24	4	ND (0.082 U)		0.041		
P2BN-26	PSL-40	24 inches	0	6	6	7.6 J	47	27		Non-TSCA
			6	8	2	8.4 J	47	28		
			8	12	4	8.4 J	73	41	42.5	
			12	19	7	45	73	59		
			19	23	4	45		45		

Non-TSCA
Not included in calculation

ARCADIS